

SEQUENCE LISTING

<110> Skinner, Michael K.

Patton, Jodi L.

<120> A METHOD OF DETERMINING TUMOR CHARACTERISTICS BY
DETERMINING ABNORMAL COPY NUMBER OR EXPRESSION LEVEL OF
LIPID-ASSOCIATED GENES

<130> PATRICK EAGLEMAN: EMBOL-X 252/124

<140>

<141>

<160> 95

<170> PatentIn Ver. 2.0

<210> 1

<211> 2045

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(2045)

<223> The sequence of the cDNA coding for

1-acylglycerol-3-phosphate acyltransferase

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<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(1554)

<223> The sequence of the cDNA coding for Aldehyde
dehydrogenase (5 family, member A1)

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<210> 3

<211> 2051

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(2051)

<223> The sequence of the cDNA coding for
Choline/ethanolamine phosphotransferase

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<211> 3758

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(3758)

<223> The sequence of the cDNA coding for Diacylglycerol

kinase, gamma

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<211> 2470

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(2470)

<223> The sequence of the cDNA coding for

Dihydroxyacetone phosphate acyltransferase

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<211> 2757

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(2757)

<223> The sequence of the cDNA coding for EDG-1

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<210> 7

<211> 1217

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(1217)

<223> The sequence of the cDNA coding for EDG-2

<400> 7

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acaagaaaaat ttgtctcccg tagttctggg gcgtgttcac cacctacaac cacagagctg 120
tcatggctgc catctctact tccatccctg taatttcaca gccccagttc acagccatga 180
atgaaccaca gtgcttctac aacgagtcca ttgccttctt ttataaccga agtgaaagc 240
atcttgccac agaatggaac acagtcagca agctggtgat gggacttggaa atcactgttt 300
gtatcttcat catgttggcc aacctattgg tcatggtggc aatctatgtc aaccggcgct 360
tccatattcc tatttattac ctaatggcta atctggctgc tgcagacttc tttgctgggt 420
tggctactt ctatctcatg ttcaacacag gacccaatac tcggagactg actgtcagca 480
catggctcct tcgtcagggc ctcattgaca ccagcctgac ggcattctgtg gccaacttac 540
tggctattgc aatcgagagg cacattacgg tttccgcat gcagctccac acacggatga 600
gcaaccggcg gtagtgggtg gtcattgtgg tcatctggac tatggccatc gttatgggtg 660

ctataccag tgtgggctgg aactgttatct gtgatattga aaattgttcc aacatggcac 720
ccctctacag tgactcttac ttagtcttct gggccatTTT caacttggtg acctttgtgg 780
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ctgaattcaa ctctgccatg aaccccatca tttactccta ccgcgacaaa gaaatgagcg 1080
ccacctttag gcagatccctc tgctgccagc gcagtgagaa ccccaccggc cccacagaag 1140
gctcagaccg ctcggcttcc tccctcaacc acaccatctt ggctggagtt cacagcaatg 1200
atcactctgt ggtag 1217

<210> 8

<211> 1137

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(1137)

<223> The sequence of the cDNA coding for EDG-3

<400> 8

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cattaccagt acgtggggaa gttggcgccc aggctgaagg aggccctccga gggcagcacg 120
ctcaccaccc tgctcttctt ggtcatctgc agcttcatcg tcttggagaa cctgatggtt 180
ttgattgcca tctggaaaaa caataaaattt cacaaccgca tgtactttt cattggcaac 240
ctggctctct gcgacctgct ggccggcatc gcttacaagg tcaacattct gatgtctggc 300
aagaagacgt tcagcctgtc tcccacggtc tggttcctca gggagggcag tatgttcgtg 360

gcccgggg cgtccacctg cagctactg gccatcgcca tcgagcggca cttgacaatg 420
atcaaaatga ggccttacga cgccaacaag aggcaccgcg tcttcctcct gatcgggatg 480
tgctggctca ttgccttcac gctggcgcc ctgcccattc tgggctggaa ctgcctgcac 540
aatctccctg actgctctac catcctgccc ctctactcca agaagtacat tgccttctgc 600
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agcagcaaca atagcagcca ctctccgaag gtcaaggaag acctgcccc cacagacccc 1080
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<210> 9

<211> 1056

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(1056)

<223> The sequence of the cDNA coding for EDG-4

<400> 9

atggtcatca tggggccagtg ctactacaac gagaccatcg gcttcttcta taacaacagt 60
ggcaaagagc tcagctccca ctggcgccccc aaggatgtgg tcgtggtggc actggggctg 120
accgtcagcg tgctggtgct gctgaccaat ctgctggtca tagcagccat cgcctccaac 180

cgccgcttcc accagccat ctactacctg ctcggcaatc tggccgcggc tgacctttc 240
gcgggcgtgg cctaccttt cctcatgttc cacactggtc cccgcacagc ccgactttca 300
cttgagggct ggttccctgct gcagggtttt ctggacacaa gcctcaactgc gtcggtggcc 360
acactgctgg ccatcgccgt ggagcggcac cgcaagtgtga tggccgtgca gctgcacagc 420
cgccctgcccc gtggccgcgt ggtcatgctc attgtggcg tgtgggtggc tgccctggcc 480
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atggcacccc tgctcagccg ctccctattt gccgtctggg ctctgtcgag cctgcttg 600
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gagatgcgcc gcacccctcg ccgccttctc tgctgcgcgt gcctccgcac gtccacccgc 960
gagtctgtcc actatacatac ctctgcccag ggaggtgcca gcactcgcat catgcttccc 1020
gagaacggcc acccaactgat ggactccacc cttag 1056

<210> 10

<211> 1062

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(1062)

<223> The sequence of the cDNA coding for EDG-5

<400> 10

atgggcagct tgtactcgga gtacctgaac cccaaacaagg tccaggaaca ctataattat 60

accaaggaga cgctggaaac gcaggagacg acctccgc aggtggcctc ggccttcata 120
gtcatcctct gttgcgccat tgtggtgaa aacttctgg tgctcattgc ggtggccga 180
aacagcaagt tccactcggc aatgtacctg tttctggca acctggccgc ctccgatcta 240
ctggcaggcg tggccttcgt agccaataçc ttgctctctg gctctgtcac gctgaggctg 300
acgcctgtgc agtggttgc ccgggagggc tctgcctcca tcacgctctc ggcctctgtc 360
ttcagcctcc tggccatcgc cattgagcgc cacgtggcca ttgccaaggt caagctgtat 420
ggcagcgcaca agagctgccc catgcttctg ctcatcgggg cctcgtggct catctcgctg 480
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cgcccgctgc agtgctggcg gccgggggtg ggggtgcaag gacggaggcg ggtcgggacc 960
ccggggcacc acctcctgccc actccgcagc tccagctccc tggagagggg catgcacatg 1020
cccacgtcac ccacgtttct ggagggcaac acggtggtct ga 1062

<210> 11

<211> 1566

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(1566)

<223> The sequence of the cDNA coding for EDG-6

<400> 11

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ccaacagctg gcgcccccg ggcacagccg gctcattgtt ctgcactaca accactcggg 120
ccggctggcc gggcgcgaaa ggccggagga tggcggcctg gggggccctgc gggggctgtc 180
ggtggccgccc agctgctgg tggtgcgttga gaacttgctg gtgctggcgg ccatcaccag 240
ccacatgcgg tcgcgacgct gggtctacta ttgcctggta aacatcacgc tgagtgacct 300
gctcacgggc gcggcctacc tggccaacgt gctgctgtcg gggggcccgca cttccgtct 360
ggcgcccccc cagtggttcc tacgggaggg cctgctcttc accggccctgg ccgcctccac 420
cttcagcctg ctcttcactg caggggagcg ctttgcacc atggtgcggc cggtggccga 480
gagcggggcc accaagacca gccgcgtcta cggcttcata ggccctctgct ggctgctggc 540
cgcgctgctg gggatgctgc ctttgctggg ctggaaactgc ctgtgcgcct ttgaccgctg 600
ctccagcctt ctggccctct actccaagcg ctacatcctc ttctgcctgg tgatcttcgc 660
cgcggtcctg gccaccatca tgggcctcta tggggccatc ttccgcctgg tgcaggccag 720
cgggcagaag gccccacgcc cagcggcccg ccgcaaggcc cgccgcctgc tgaagacggt 780
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cagcctcgcc tgtatgggaa gcagggaaacg ggacaggccc ccatggtctt cccgggtggcc 1320
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cccgcttctg tgtgattctg gggaaagtccc ggccctctc tgggcctcag tagggctccc 1500
aggctgcaag gggtgactg tggatgcat gcccctggcaa cattgaagtt cgatcatgg 1560
aaaaaaa

<210> 12
<211> 1148
<212> DNA
<213> Homo sapiens

<220>
<221> gene
<222> (1)..(1148)
<223> The sequence of the cDNA coding for EDG-7

2
<400> 12
cttctttaaa tttcttctta ggatgttcac ttcttctcca caatgaatga gtgtcactat 60
gacaaggaca tggacttttt ttataatagg agcaacactg atactgtcga tgactggaca 120
ggaacaaagc ttgtgattgt tttgtgtgtt gggacgtttt tctgcctgtt tattttttt 180
tctaattctc tggcatcgc ggcagtgatc aaaaacagaa aatttcattt ccccttctac 240
tacctgttgg ctaatttagc tgctgccat ttcttcgctg gaattgccta tgtattcctg 300
atgttaaca caggcccagt ttcaaaaact ttgactgtca accgctgggt tctccgtcag 360
gggcttctgg acagtagctt gactgcttcc ctcaccaact tgctggttat cgccgtggag 420
aggcacatgt caatcatgag gatgcgggtc catagcaacc tgaccaaaaa gagggtgaca 480
ctgctcattt tgcttgcctg ggccatcgcc attttatgg gggcggtccc cacactgggc 540
tggaaattgcc tctgcaacat ctctgcctgc tcttcctgg ccccccattta cagcaggagt 600
taccttgttt tctggacagt gtccaaccttc atggccttcc tcattatgggt tgtgggtac 660
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tccatcagcc gccggaggac acccatgaag ctaatgaaga cggtgatgac tgtcttaggg 780
gcgtttgtgg tatgctggac cccgggcctg gtgggtctgc tcctcgacgg cctgaactgc 840
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gtcgtgaacc ccatcatctta ctcctacaag gacgaggaca tgtatggcac catgaagaag 960

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gtcctcagca ggagtgacac aggcagccag tacatagagg atagtattag ccaaggtgca 1080
gtctgcaata aaagcacttc ctaaactctg gatgcctctc ggcccaccca ggtgatgact 1140
gtcttagg 1148
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<210> 13

<211> 1606

<212> DNA

<213> *Homo sapiens*

<220>

<221> gene

<222> (1)..(1606)

<223> The sequence of the cDNA coding for

Glycerol-3-phosphate dehydrogenase

<400> 13

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gctgccgggg ctctccgcct ccccccacct gtatgagggct gggctctgggg aacctgtgct 120
cagcattcca ccccctggag cttgggcttg gtcttccctg cgggtccctg cgctgacatt 180
caggcggggga gccaggaggc ctggcgcgcc tccagagccc gccgggggag ccggggcgagg 240
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cgagaagtcg tcaggctaag aaatggcatt tcaaaaggca gtgaaaggga cgattcttgt 420
tggaggaggt gctcttgcaa ctgttttagg actttctcag tttgctcatt acagaaggaa 480
acaaatgaac ctggcctatg ttaaagcagc agactgcatt tcagaaccag ttaacaggga 540
gcctcccttcc agagaagctc agctactgac tttgcaaaat acatctgaat ttgatatcct 600
tqttattgga ggaggagcaa caggaagtgg ctgtgcgccta gatgctgtca ccagaggact 660

aaaaacagcc cttgtagaaa gagatgattt ctcatcaggg accagcagca gaagcactaa 720
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cactactgat actccaaactg atgttacaca ccatccaatt cttcagaag aagatata 1500
cttcattttg aatgaagtgc gtaattacct gagttgtgat gttgaagtga gaagaggg 1560
tgtcctggca gcatggagtg gaatccgtcc tcttggataa gacccc 1606

<210> 14

<211> 2417

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(2417)

<223> The sequence of the cDNA coding for

Lyosphospholipase I

<400> 14

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cgctgcccgc catcgcccc gccgccccggaa aggccaccgc tgccgtgatt ttccctgcatt 120
gattgggaga tactgggcac ggatgggcag aagccttgc aggtatcaga agttcacata 180
tcaaataatat ctgcccgcatt ggcctgtta ggcctgttac attaaatatg aacgtggcta 240
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cccttaccac acagcagaaa ctggcagggtg tcactgcact cagttgctgg cttccacttc 480
gggcttcctt tccacagggt cctatcggtg gtgctaatacg agatatttctt attctccagt 540
gccacgggga ttgtgaccct ttgggtcccc tgatgttgg ttctcttacg gtggaaaaac 600
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atcattttaa attgtcaaaa ttccagatt actggtaaaa attatttcaa aacaaactta 1980
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atttgctgt aacatggaa agtgtaaatg ttttcattgg tttctatcaa tgtgaaataa 2400
aatttaattt tgaaaaaa 2417

<210> 15
<211> 1192
<212> DNA
<213> Homo sapiens

<220>
<221> gene
<222> (1)..(1192)
<223> The sequence of the cDNA coding for Human
Lysophospholipase Homolog

<400> 15
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ttggggccgc ccagatgagg gaacagcccg atttgcctgg ttctgattct ccaggctgtc 120
gtggttgtgg aatgcaaacg ccagcacata atggaaacag gacctgaaga cccttccagc 180
atgccagagg aaagttcccc cagggcgacc ccgcagagca ttccctacca ggacccct 240
cacctggtca atgcagacgg acagtacctc ttctgcaggt actggaaacc cacaggcaca 300
cccaaggccc tcacatcttgcgt gtcccatgga gcccggagagc acagtggccg ctatgaagag 360
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ctcaagattt atgaaggtgc ctaccatgtt ctccacaagg agttccctga agtcaccaac 1020
tccgtcttcc atgaaataaa catgtgggtc tctcaaagga cagccacggc aggaactgcg 1080
tccccaccct gaatgcattt gcccgggtccc ggctcatggc ctggggatg caggcagggg 1140
aagggcagag atggcttctc agatatggct tgcaaaaaaaa aaaaaaaaaa aa 1192

<210> 16

<211> 2333

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(2333)

<223> The sequence of the cDNA coding for
N-acylsphingosine amidohydrolase

<400> 16

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ccgtcagctg tgccgtcgcg cagcacgcgc cgccgtggac agaggactgc agaaaatcaa 120
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<210> 17

<211> 1016

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(1016)

<223> The sequence of the cDNA coding for Phospholipase

A2

<400> 17

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gccccaggaa gttgctcatg ggagcagacc cctagagcag gatttggggc caggccaaag 120
agaaccccaag agatgaaagg cctcctccca ctggcttggt tcctggcttg tagtgtgcct 180
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aaggatggca ccgattggtg ctgttggcg catgaccact gctatggcg gctggaggag 360
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gcttctcgaa tcagattatc atcaccacca ccctccagag aattttacgc aagaagagcc 960
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<210> 18

<211> 3609

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(3609)

<223> The sequence of the cDNA coding for Phospholipase

D1 (phosphatidylcholine specific)

<400> 18

ggcacgagga gcccctgagag tccgcccggca acgcgcaggt gctagcggcc ctttcgcctt 60
gcagccccctt tgctttact ctgtccaaag ttaacatgtc actgaaaaac gagccacggg 120
taaatacctc tgcactgcag aaaattgctg ctgacatgag taatatcata gaaaatctgg 180
acacgcggga actccacttt gagggagagg aggtagacta cgacgtgtct cccagcgatc 240
ccaagataca agaagtgtat atccctttct ctgctattta taacactcaa ggatttaagg 300
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aacgcttcac atctacaaca agggtaccaa gtattaatct ttacactatt gaattaacac 420
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gccgaattc 3609

<210> 19

<211> 2893

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1) .. (2893)

<223> The sequence of the cDNA coding for Phospholipase

D1 glycosylphosphatidylinositol specific

<400> 19

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tgctgatgat cgtgatggct tctctctgcc atagaggttc atcgtgtggc ctttcaacgc 120
acatagaaat cggacacaga gctctggagt ttcttcatct tcacaatggg catgttaact 180
acaaagagct gttactagaa caccaggatg catatcaggc tggaccgtg tttcctgatt 240
gtttttaccc tagcctctgc aaaggaggaa aattccatga tgtgtctgag agcactcact 300
ggactccgtt tcttaacgca agcggttatt atatccgaga gaactatccc cttccctggg 360
agaaggacac agagaaactg gtagcttct tggatggaaat tacttctcat atggtagcag 420
atgtcagctg gcatagtctg ggcattgaac aaggattcct taggaccatg ggagctattg 480

atttcacgg ctcctattct gaggctcatt cagctggta tttggagga gatgtgtga 540
gccagttga atttaatttt aattacctt cacgacgctg gtatgtgcc a gtc a a a g a t c 600
tgcgtggaaat ttatgagaaa ctctatggtc gagaagtc a c a c t g a a a a t g t a a t t g t g 660
attgttcaca tatccagttc ttagaaatgt atggtagat gctagctgtt tccaa gtt 720
atccctctta ctctacaaag tccccgtttt tggtggaca attccaa g a g a t t t c t t g 780
gaggactgga tgatatggcg tttggtcca ctaatattt a c c a t c t a a c g a g c t t c a t g t 840
tggagaatgg gaccagtgc tgcagcctac ctgagaaccc tctgttcatt gcatgtgg 900
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gcggagccac tcggatgtac gcgctcacat ccgacctgca g c c a c c g c t g c t g a c a c c t 2160

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<210> 20

<211> 1362

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(1362)

<223> The sequence of the cDNA coding for Phosphatidic

Acid Phosphatase type 2B

<400> 20

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cgatttaggg ttgacagagg aaagcagagg cgccgcaggag gagcagaaaa caccaccc 120

tgcaaggtttggaa ggcaggcgcgc cccggctgca ctctagccgc cgcgccccga gcccggggccg 180
acccggccact atccgcagca gcctcgccca ggaggcgacc cgggcgcctg ggtgtgtggc 240
tgctgttgcg ggacgtcttc gcggggcggg aggctcgccg cgcagccagc gccatgcaaa 300
actacaagta cgacaaagcg atcgtcccgag agagcaagaa cggcggcagc cggcgctca 360
acaacaaccc gaggaggagc ggcagcaagc gggtgctgct catctgcctc gacctttct 420
gcctttcat ggcgggcctc cccttcctca tcatcgagac aagcaccatc aagccttacc 480
accgagggtt ttactgcaat gatgagagca tcaagtaccc actgaaaact ggtgagacaa 540
taaatgacgc tggctctgt gccgtggggta tcgtcattgc catcctcgcg atcatcacgg 600
gggaattcta ccggatctat tacctgaaga agtcgcggc gacgattcag aacccttacg 660
tggcagcact ctataagcaa gtgggctgct tccttttgg ctgtgccatc agccagtc 720
tcacagacat tgccaaagtgc tccatagggc gcctgcgtcc tcacttcttgc agtgcgtgc 780
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aatgactgct gacagcaagt tcttgctgct ctccaatctc atcagacagt agaatgttagg 1320
aaaaaaacttt tgcccgactg attttaaaaa aaaaaaaaaaa aa 1362

<210> 21

<211> 1043

<212> DNA

<213> *Homo sapiens*

52202

<221> gene

<222> (1)..(1043)

<223> The sequence of the cDNA coding for Phosphatidic Acid Phosphatase type 2a

<400> 21

cccgccgg gctcgagaat caagggcctc ggccgccgtc cccgagctca gtccatcgcc 60
cttgcggggc agcccgaa gggca gagaccatgt ttgacaagac gggctgccc tacgtggccc 120
tcgatgtgct ctgcgtgtt ctggctggat tgcctttgc aattttact tcaaggcata 180
ttacttcaag gcataacccc ttccaacgag gagtattctg taatgatgag tccatcaagt 240
acccttacaa agaagacacc ataccttatg cgttattagg tggaaaatc attccattca 300
gtattatcg tattattctt ggagaaaccc tgtctgttta ctgttaacctt ttgcactcaa 360
atccctttat caggaataac tacatagcca ctatttacaa agccattgga accttttat 420
ttgggtcagc tgctagtcag tccctgactg acattgcca gtattcaata ggcagactgc 480
ggcctcaattt cttggatgtt tgtgatccag attggtaaaa aatcaactgc agcgatggtt 540
acattgaata ctacatatgt cgaggaaatg cagaaagagt taaggaaggc aggttgcct 600
tctattcagg ccactcttcg tttccatgt actgcattgt gtttggca ctttatcttc 660
aagccaggat gaagggagac tggcaagac tcttacgccc cacactgcaa tttggcttg 720
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ctctgcatttca aacaccaaca actggaaatc actatccgag caatcaccag cttgaaagg 960
cagcagggtg cccaggtgaa gctggcctgt tttctaaagg aaaatgattt ccacaaggca 1020
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1043

<210> 22

<211> 5397

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(5397)

<223> The sequence of the cDNA coding for

Phosphatidylinositol-3-Kinase (class 2, gamma
polypeptide)

<400> 22

gaattcggca cgagcacttc cttctcggt agattatctg aaactgttgt cggttcttga 60
gatgatacta ccaccgaatg tctgtgttcc attgtctagt ccaacctgtt ttgtggatat 120
ctacaacgtt ccggcaatag ttttgcaggt gcatcacatt tttgtttttt ttttgggagg 180
aaaagggagg gcacggcagc caggcttcat attcctacaa gtgcattgtt caagattact 240
gtacttacag tggccaaatc atcttctcat aaaagggaa agcttcatacg cctcaaccat 300
gaaggaaacc agtcgcatacg ggcattggagc tggagaacta taaacagccc gtgggtgttga 360
gagaggacaa ctgcccgaagg cgccggagga tgaagccgcg cagtgtgcc agcctgtcct 420
ccatggagct catccccatc gagttcgtgc tgccaccag ccagcgcaaa tgcaagagcc 480
ccgaaacggc gctgctgcac gtggccggcc acggcaacgt ggagcagatg aaggcccagg 540
tgtggctgcg agcgctggag accagcgtgg cggcggactt ctaccacccg ctgggaccgc 600
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<210> 23

<211> 3424

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(3424)

<223> The sequence of the cDNA coding for

Phosphatidylinositol-3-kinase (catalytic, alpha
polypeptide)

<400> 23

aggatcagaa caatgcctcc aagaccatca tcaggtgaac tgtggggcat ccacttgatg 60
cccccaagaa tcctagtgga atgtttacta ccaaatggaa tgatagtgac tttagaatgc 120
ctccgtgagg ctacattagt aactataaag catgaactat ttaaagaagc aagaaaatac 180
cctctccatc aacttcttca agatgaatct tcttacattt tcgtaagtgt tacccaagaa 240
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attggtttg ctatcggcat gccagtgtgc gaatttgata tggtaaaga tcctgaagta 420
caggacttcc gaagaaaatat tcttaatgtt tgtaaagaag ctgtggatct tagggatctt 480
aattcacctc atagtagagc aatgtatgtc tatccgccac atgtagaatc ttcaccagag 540
ctgccaaagc acatataataa taaattggat agaggccaaa taatagtggt gatttggta 600
atagtttctc caaataatga caagcagaag tatactctga aaatcaacca tgactgtgtg 660
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gaacaattaa aactctgtgt tttagaatat cagggcaagt acattttaaa agtgtgtgga 780
tgtgatgaat acttcctaga aaaatatcct ctgagtcagt ataagtatat aagaagctgt 840
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taggaattgc acaatccatg aacagcatta gatttacagc aagaacagaa ataaaatact 3360
atataattta aataatgtaa acgcaaacag ggtttgatag cacttaaact agttcatttc 3420
aaaaa 3424

<210> 24

<211> 1201

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(1201)

<223> The sequence of the cDNA coding for Prostate

Differentiation Factor PLAB

<400> 24

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atggctctca gatgctcctg gtgttgctgg tgctctcggt gctgccgcat gggggcgccc 120
tgtctctggc cgaggcgagc cgcgcaagtt tcccgggacc ctcagagttt cacacccgaag 180
actccagatt ccgagagttt cgaaaacgct acgaggacct gctaaccagg ctgcgggcca 240
accagagctg ggaagattcg aacacccgacc tcgtcccgcc ccctgcagtc cggatactca 300
cgccagaagt gggctggga tccggcgccc acctgcacct gcgtatctt cggggcgccc 360
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cccaggcgcc cgcgctgcac ctgcgactgt cgccgccc gtcgcagtcg gaccaactgc 540
tggcagaatc ttctgtccgca cggccccagc tggagttgca cttgcggccg caagccgcca 600
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gctgccgtct gcacacggtc cgcgcgtcgc tggaagacct gggctgggcc gattgggtgc 720
tgtcgccacg ggaggtgcaa gtgaccatgt gcatcgccgc gtgcccggc cagttccggg 780
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aagtctgtta tttattatta atttattggg gtgacccttct tggggactcg ggggctggtc 1140
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c 1201

<210> 25
<211> 1269
<212> DNA
<213> Homo sapiens

<220>
<221> gene
<222> (1)..(1269)
<223> The sequence of the cDNA coding for Phosphatidic
Acid Phosphatase type 2c

<400> 25
gcgacgggac ggcgtgggac cggcgctggg ggtcgccggg accatgcagc ggaggtgggt 60
cttcgtgctg ctcgacgtgc tgtgcttact ggtcgccctcc ctgccttgc ctatcctgac 120
gctggtaac gccccgtaca agcgaggatt ttactgcggg gatgactcca tccggtaccc 180
ctaccgtcca gataccatca cccacgggt catggctggg gtcaccatca cggccaccgt 240
catccttgc tcggccgggg aagcctacct ggtgtacaca gaccggctct attctcgctc 300

ggacttcaac aactacgtgg ctgctgtata caaggtgctg gggaccttcc tggggggc 360
tgccgtgagc cagtctctga cagacctggc caagtacatg attgggcgtc tgaggccaa 420
cttccttagcc gtctgcgacc ccgactggag ccgggtcaac tgctcggtct atgtcagct 480
ggagaaggtg tgcaggggaa accctgctga tgtcaccgag gccaggttgt ctttctactc 540
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actctgttgg aagtgggcac ggctgctgctg acccacagtc cagttcttcc tggtggcctt 660
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tatcccccttc ttttatggg gtttaggaag ggaccgagag atcagatagt tgctgttttgc 1200
taaaatgtaa tgtatatgtg gtttttagta aaataggca cctgtttcac aaaaaaaaaa 1260
aaaaaaaaaa 1269

<210> 26

<211> 1286

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(1286)

<223> The sequence of the cDNA coding for Phosphocholine

cytidyltransferase

<400> 26

cgaccggacc gggctcgaaa gacgtgagt tgcagttaaa agaagatgga tgcacagtgt 60
tcagccaagg tcaatgcaag gaagaggaga aaagaggcgc ccggacccaa cggggcaaca 120
gaagaagatg gggttcccttc caaagtgcag cgctgtgcag tgggcttacg gcaaccagct 180
ccttttctg atgaaattga agttgacttt agtaagccct atgtcagggt aactatggaa 240
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gctctctgtt gaattccgaa ttgtgacccaa aacactaaac ctaaggacag ctacaaagga 1260
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1286

<210> 27

<211> 1856

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(1856)

<223> The sequence of the cDNA coding for Phosphate
cytidylyltransferase 2 (ethanolamine specific)

<400> 27

attgcggcg gcggcgttcg gagtcgcccgg gagctgccag gctgtcccgcg ccggccgctgc 60
ggggccatga tccggaacgg gcgcggggct gcaggcgccg cagagcagcc gggcccgcccc 120
ggcaggcgcg ccgtgagggt gtggtgcgat ggctgctatg acatggtgca ttacggccac 180
tccaaccagc tgccgcaggc acggggccatg ggtgactacc tcatacgtagg cgtgcacacc 240
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actgttagatg gccgggacac ctatgaggaa gtaaagcagg ctgggaggta cagagaatgc 480
aagcgcacgc aagggggtgtc caccacagac ctctggggcc gcatgctgct ggtaacccaaa 540
gcccatcaca gcagccagga gatgtcctct gagtaccggg agtatgcaga cagttttggc 600
aagtgcctg gtggcgaa cccctggacc ggggtatccc agttcctgca gacatctcag 660
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cttggtaca accgaataaa gcctggtggc agtgctgcgc ggggctccca gccaat 1856

<210> 28

<211> 3160

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(3160)

<223> The sequence of the cDNA coding for Phosphatase

and Tenson Homolog (PTEN)

<400> 28

cctccccctcg cccggcgccgg tcccggtccgc ctctcgctcg cctcccgctt cccctcggtc 60
ttcccgaggcg cccgggctcc cggcgccggcg gcggagggggg cgggcaggcc ggcggggcggt 120
gatgtggcag gactctttat gcgctgcggc aggatacgcg ctcggcgctg ggacgcgact 180

gcgctcagg ctctccctc ggaagctgca gccatgatgg aagtttgaga gttgagccgc 240
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caccccccgt ggcccggcgt ccggaggccg ccggcggagg cagccgttgc gaggattatt 780
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aatgctcaga aaggaaataa ttttatgctg gactctggac catataccat ctccagctat 2820
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ccacaaatga agggatataa aaataatgtc ataggtaa aacacagcaa caatgactta 3060
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<210> 29

<211> 1707

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(1707)

<223> The sequence of the cDNA coding for

Sphingosine-1-phosphate lyase 1

<400> 29

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cagctaattg catggagtgt cgtgtggacc ctgctgatag tctggggata tgagttgtc 180
ttccagccag agagttttagt gtcaagggtt aaaaagaaat gtttaagct caccaggaag 240
atgcccatta ttggtcgtaa gattcaagac aagttgaaca agaccaagga tgatattagc 300
aagaacatgt cattcctgaa agtggacaaa gagtatgtga aagctttacc ctcccagggt 360
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caagagggga gaggcctctgg aacagtgtac agtggggagg agaagctcac tgagctcctt 480
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gattcgtgtg gatgtgtgac ttctggggga acagaaagca tactcatggc ctgcaaagca 660
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gcccatgctg catttaacaa agcagccagt tactttggga tgaagattgt gcgggtcccc 780
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ggaatgggtg ccatctatgg catggcccaag acaactgttg acaggaatat ggttgcagaa 1620
ttgtcctcag tcttcttgaa cagcttgtac agcaccgaca ctgtcaccca gggcagccag 1680
atgaatggtt ctccaaaacc ccactga 1707

<210> 30

<211> 1879

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(1879)

<223> The sequence of the cDNA coding for Sphingomyelin
phosphodiesterase 1

<400> 30

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ggccctttg atatgggtta ctggacagga gacatccccg cacatgtatgt ctggcaccag 480
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tcacagccat ggagtagagg cctaagttga cactgccctg ggcagacaag acaggagctg 1800
tcgccccagg cctgtgctgc ccagccagga accctgtact gctgctgcga cctgatgctg 1860
ccagtctgtt aaaataaaag 1879

<210> 31

<211> 3553

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(3553)

<223> The sequence of the cDNA coding for Phospholipase

C beta 3 (phosphatidylinositol specific)

<400> 31

gaagcgggtg gagactgcgc tggaatcctg tggcctcaaa ttcaaccgga gtgagtccat 60
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gccggacatt gacaagatcc tgctggagat aggcgccaag ggcaagccat acctgacgct 180
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gagtgcctac ttcatcaact cctcgcataa cacctatctc actgcggggc agctggctgg 480
gacctcgtcg gtggagatgt accgccaggc actactatgg ggctgccgct gcgtggagct 540
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aaaaaaaaaa aaa 3553

<210> 32

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

forward primer

<400> 32

cgactttgcc tttccatgg ctc

23

<210> 33

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

reverse primer

<400> 33

ccttttgtgt ttcatccttc ctctcc

26

<210> 34

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

forward primer

<400> 34

aaaggagaaa gtgaaagatg tggagg

26

<210> 35

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 35

ggacagaaag ggaggacagg aaag

24

<210> 36

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 36

ccccacttca aactctttca ccc

23

<210> 37

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 37

gccatttcac tgtcacgctt tc

22

<210> 38

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

forward primer

<400> 38

gctctgccaa gacattgact cc

22

<210> 39

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

reverse primer

<400> 39

atcatctctt ccctctgcgt cc

22

<210> 40

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

forward primer

<400> 40

cctacgtcac tacactagag accc

24

<210> 41

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

reverse primer

<400> 41

gccaaaactg tctgcatact ccc

23

<210> 42

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 42

aactgctcg tctatgtgca gc

22

<210> 43

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 43

ccaagaacac catgcagtac atcc

24

<210> 44

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 44

gctcattcaa aagaccgaca ccg

23

<210> 45

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

reverse primer

<400> 45

acacagttcc atcagaccag cc

22

<210> 46

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

forward primer

<400> 46

cgtctactgc ctcaagagaa acc

23

<210> 47

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

reverse primer

<400> 47

gtccttatgac cagagtcact ctcc

24

<210> 48

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

forward primer

<400> 48

aggaagagga ggaacagaca gac

23

<210> 49

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 49

agcagcctca aaggacttga ac

22

<210> 50

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 50

aacctgctgc tgatagacca cc

22

<210> 51

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 51

tctctccact gctgcctgaa ac

22

<210> 52

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

forward primer

<400> 52

gtaaggcacca gccacaaaaaa cc

22

<210> 53

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

reverse primer

<400> 53

ctaacgagcc attcccaata ccc

23

<210> 54

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

forward primer

<400> 54

tggattggga gatactgggc ac

22

<210> 55

<211> 23

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Miscellaneous

reverse primer

<400> 55

ccaaacatca gggaaaccaa agg

23

<210> 56

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 56

cctgttcttc aacatgggcc ag

22

<210> 57

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 57

cctctcaacc acctcctcaa tcttc

25

<210> 58

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 58

tcttcttccc ctaacatcac catctc

26

<210> 59

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

reverse primer

<400> 59

tgcatttgcc agtcatgtca cc

22

<210> 60

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

forward primer

<400> 60

aaaccctctt ccttgctcc cctc

24

<210> 61

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

reverse primer

<400> 61

atgtctgctt cttccccc ttg tgtc

24

<210> 62

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

forward primer

<400> 62

tcaacaacaa cccgaggagg ag

22

<210> 63

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 63

gatggcacag ccaaagagga ag

22

<210> 64

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 64

acttccgcct cttcctgcta atc

23

<210> 65

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 65

cctccaaacc atcttcatct tccc

24

<210> 66

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

forward primer

<400> 66

atttcacagc cccagttcac agcc

24

<210> 67

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

reverse primer

<400> 67

tgaccacaat gaccaccact accc

24

<210> 68

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 68

agcattacca gtacgtgggg aag

23

<210> 69

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 69

aacatactgc cctccctgag gaac

24

<210> 70

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 70

taggctgtga gtcctgcaat gtcc

24

<210> 71

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 71

tcagcatctc ggcaagagta cac

23

<210> 72

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 72

aaccccaaca aggtccagga acac

24

<210> 73

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

reverse primer

<400> 73

tttccaccac aatggcgcaa cag

23

<210> 74

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

forward primer

<400> 74

aagttgcagt cttgcgtgtg

20

<210> 75

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

reverse primer

<400> 75

ggtggttacc tccttggtcca

20

<210> 76

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

forward primer

<400> 76

cttgactgct tccctcacca ac

22

<210> 77

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 77

cttttcacat gctgcacgcc

20

<210> 78

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 78

aggtggatgt gagggcaatg agaag

25

<210> 79

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 79

cgggcgtgta gtaatgtgat gcag

24

<210> 80

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

forward primer

<400> 80

gcctcctctt cgtctttctt aacc

24

<210> 81

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

reverse primer

<400> 81

catcatcttg tgaaacaaca gtgcc

25

<210> 82

<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 82
tcaaggcata cccccttcca ac

22

<210> 83
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 83
agtccagtc aacacatcgct cc

22

<210> 84
<211> 23
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 84

tctatgctct ttccccatac ccc

23

<210> 85

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 85

gcgatataacc aggttgtgcc ag

22

<210> 86

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

Sequence: 22 23 24 25 26 27

<400> 86

gtgccaagtg gaaaagttat gcag

24

<210> 87

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

reverse primer

<400> 87

tgtcaacaga tggacgaaaga caag

24

<210> 88

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

forward primer

<400> 88

ccccatttat cagctccatt gcc

23

<210> 89

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

reverse primer

<400> 89

catccctct tctcacttca acatc

25

<210> 90

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

forward primer

<400> 90

ccaaacctact gcaacttctg cc

22

<210> 91

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 91

caaccccatc acactccaaac tc

22

<210> 92

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 92

gctctgccaa gacattgact cc

22

<210> 93

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 93

atcatctctt ccctctgcgt cc

22

<210> 94

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

forward primer

<400> 94

gttagccaag agccaggaca ag

22

<210> 95

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

reverse primer

<400> 95

gcaagccata tctgagaagc catc

24